
memorandum

Date: October 23, 2001

Reply to: EH-52:Peter O'Connell:3-5641

Subject: TECHNICAL POSITION REGARDING USE OF EXAM BANKS FOR RADIATION
SAFETY TRAINING

To: Kathleen Carlson, DP-1 (Acting)
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Since May 1995, my office has provided several clarifications and technical positions regarding the Department of Energy's (DOE) expectations concerning implementing selected provisions of Title 10 of the Code of Federal Regulations, Part 835 (10 CFR 835), "Occupational Radiation Protection." To assist field implementation of 10 CFR 835, we have developed, and are now distributing, the following Radiological Control Technical Position paper:

- o "Use of Exam Banks for Radiation Safety Training."

The attached technical position does not represent new policy or direction to the field. Rather, it provides clarification at the request of the field, Headquarters, and program offices to facilitate and promote the efficient and cost effective implementation of 10 CFR 835. The technical position was developed in response to a concern raised from a contractor concerning improper use of a DOE developed example exam question bank.

Please distribute the attached document to the applicable radiation protection organizations at your facilities. The DOE Radiological Control Coordinating Committee has reviewed this technical position.

For additional information, please contact Mr. Peter O'Connell (Office of Worker Protection Policy and Programs) on 301-903-5641.

Original signed by
Steven V. Cary
Acting Assistant Secretary
Environment, Safety and Health

Attachment

**Department of Energy
Office of Worker Protection Policy and Programs
Radiological Control Technical Position
RCTP 2001 - 03**

Use of Exam Banks for Radiation Safety Training

Issue:

It was recently brought to the attention of the Office of Worker Protection Policy and Programs (EH-52) that a Department of Energy (DOE) site discovered that one of their subcontractors was providing their radiological control technicians (RCTs) with copies of the DOE developed example test questions. The site in question had been relying solely on the DOE developed example test questions for qualifying subcontractor RCTs. The site's qualification of permanent staff RCTs included use of the DOE developed example test questions as well as site specific test questions. Recent feedback indicates that this is not the only site where this has occurred. The inappropriate use of the DOE example test questions and site reliance solely on those questions to qualify individuals as RCTs could compromise the integrity of the training program. While the training in question only involved RCTs, the same concern would also apply to radiological worker (RW) training.

Title 10 of the Code of Federal Regulations, Part 835 (10 CFR 835), *Occupational Radiation Protection*, specifies occupational radiation protection requirements for DOE activities. It includes provisions related to radiation safety training, including examinations, and requirements for personnel to have appropriate education, training, and skills to develop and implement measures necessary to ensure compliance with 10 CFR 835.

Discussion:

Applicable Requirements

10 CFR 835

§ 835.103 Education, Training, and Skills.

Individuals responsible for developing and implementing measures necessary for ensuring compliance with the requirements of this part shall have the appropriate education, training, and skills to discharge these responsibilities.

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§ 835.901 Radiation safety training.

- (b) Each individual shall demonstrate knowledge of the radiation safety training topics established in § 835.901(c), commensurate with the hazards in the area and required controls, by successful completion of an examination and performance demonstrations:
 - (1) Before being permitted unescorted access to radiological areas; and
 - (2) Before performing unescorted assignments as a radiological worker.
- (e) Radiation safety training shall be provided to individuals when there is a significant change to radiation protection policies and procedures that may affect the individual and at intervals not to exceed 24 months. Such training provided for individuals subject to the requirements of § 835.901(b)(1) and (b)(2) shall include successful completion of an examination.

Technical Position:

DOE first published the *Radiological Control Manual* (RCM) DOE/EH-0256T in 1992. For sites contractually committed to following the RCM, use of the DOE developed standardized core course training material (which included radiation safety training test banks for RCTs and RWs) was required. In July 1999, the RCM was replaced by DOE-STD-1098-99, *Radiological Control*. DOE-STD-1098-99 recommended use of DOE developed training material, supplemented by site-specific training materials, to be used to the extent practicable to satisfy the training requirements of 10 CFR 835.901 and 10 CFR 835.103.

EH-52 has continued to provide copies of the DOE example test questions to DOE contractors and subcontractors. To help keep some degree of confidentiality on the DOE example test questions, EH-52 requests the contractors and subcontractors to certify that they are conducting radiation safety training for DOE. The contractors and subcontractors are also asked to state that they will maintain confidentiality and security of the DOE example test questions and only use them for developing examinations needed to meet DOE requirements. DOE recommends that this practice continue.

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DOE-HDBK-1122-99, *Radiological Control Technician Training*, and DOE-HDBK-1130-98, *Radiological Worker Training*, provide guidance on implementing a radiation safety training program, including guidance on use of the DOE developed example test questions. The DOE example test questions may be used as a basis for developing the facility exam bank. However, sites should not rely solely on the use of the DOE developed example test questions. DOE recognizes that, other than asking contractors and subcontractors to keep the example test confidential, DOE Headquarters has no mechanism to maintain the DOE example test as a controlled document. The document that should be kept as a controlled document is the facility exam bank.

DOE-HDBK-1130-98 states “The DOE example exam bank is not held confidential. The facility exam bank should be held confidential in accordance with facilities practices for exam confidentiality. The practice should ensure students do not have knowledge of specific answer keys.”

In developing a facility exam bank, sites may selectively choose some of the DOE example test questions as written. This should be a small fraction of the total examination. They should also modify some of the DOE example test questions (i.e., reorder the answers and change numerical values) and develop facility specific exam questions for the remainder (i.e., the majority) of the examination. If a facility decides to use some of the DOE example test questions as a study aid (regardless of DOE’s recommendation), it is suggested that any questions provided to the student as a study aid not be used verbatim in the final examination.

In light of the recent reports of compromise of the DOE example test questions, sites should review their program and use of the DOE example test questions. If they identify that their system of testing has been compromised, they may wish to initiate retesting and qualification, as well as evaluate the conduct of ongoing activities.

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Use of Exam Banks for Radiation Safety Training

Summary:

Sites should not rely solely on the use of the DOE developed example test questions.

DOE Headquarters has no mechanism to maintain the DOE example test as a controlled document. The document that should be kept as a controlled document is the facility exam bank.

As a best management practice, sites should maintain confidentiality and security of the DOE example test questions and only use them for developing examinations needed to meet DOE requirements. Regardless, any questions provided to the students as study aids should not be used verbatim in the final examination.

Sites may selectively use some of the DOE example test questions in developing part of their examination. This should be a small fraction of the total examination. In addition, they should modify the DOE example test questions (i.e., reorder the answers and change numerical values) and develop facility specific exam questions for the remainder (i.e., the majority) of the examination.

Sites should also review their program and use of the DOE example test questions. If they identify that their system of testing has been compromised, they may wish to initiate retesting and qualification as well as evaluate the conduct of ongoing activities.

References:

Title 10 CFR 835, *Occupational Radiation Protection*, U.S. Department of Energy, November 4, 1998

DOE-HDBK-1122-99, *Radiological Control Technician Training*, U.S. Department of Energy, July, 1999

DOE-HDBK-1130-98, *Radiological Worker Training*, U.S. Department of Energy, October, 1998

DOE-STD-1098-99, *Radiological Control*, U.S. Department of Energy, July, 1999